

PATENT
Docket No.: FR010012
Customer No. 000024737

Amendment to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (currently amended) A method of manufacturing an ultrasound transducer (60), ~~comprising: which method includes a step of forming~~
providing a plate which is shaped as a disc (20) and formed of a composite piezoelectric material; into a hollow spherical cap (26), characterized in that the step of forming is preceded by a cutting step which consists in the formation of
cutting the plate to form at least one slit (70) which has in the plate, wherein the at least one slit has a radial orientation and extends from the a peripheral edge (72) of the disc (20) towards its center, further wherein the at least one slit includes two facing, oppositely situated free edges which bound the slit; and (C) in such a manner that, after the step of
forming the plate into a hollow spherical cap by deformation, wherein the two facing, oppositely situated free edges (74, 76) which bound the slit (70) are substantially in contact with one another so as to minimize the internal stresses in the cap (26) which are caused notably by its the deformation.
2. (currently amended) A method ~~The method~~ of manufacturing as claimed in claim 1, ~~characterized in that wherein the~~ at least one slit extends radially partly along a radius of the disc.
3. (currently amended) A method ~~The method~~ of manufacturing as claimed in claim 1, ~~characterized in that wherein the~~ at least one slit (70) extends radially as far as the center (C) of the disc (20).

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4. (currently amended) ~~A method~~ The method of manufacturing as claimed in claim 1, ~~characterized in that wherein~~ at least two slits (70) extend radially as far as the center (C) of the disc (20) in such a manner that the disc is separated into at least two distinct portions.
5. (currently amended) ~~A method~~ The method of manufacturing as claimed in claim 1, ~~characterized in that wherein~~ the facing, oppositely situated free edges (74, 76) have a radial orientation in such a manner that the corresponding slit (70) forms a V whose apex is oriented towards the center (C) of the disc (20).
6. (currently amended) ~~A method~~ The method of manufacturing as claimed in claim 4 5, ~~characterized in that wherein~~ the oppositely situated free edges (74, 76) are curved and convex, further wherein their convexity ~~being~~ is opposed to one another.
7. (currently amended) ~~A method~~ The method of manufacturing as claimed in claim 1, ~~characterized in that the disc (20) comprises~~ wherein cutting the plate to form at least one slit further includes forming a series of slits (70) which are angularly distributed in a regular fashion so as to define substantially identical angular sectors (78).
8. (currently amended) ~~A method~~ The method as claimed in claim 1, ~~characterized in that further comprising:~~
introducing an adhesive is ~~introduced~~ into the at least one slit (70) ~~in such a manner that,~~ wherein after the step of forming, the oppositely situated free edges (74, 76) are glued to one another.
9. (currently amended) ~~A method~~ The method as claimed in claim 4 8, ~~characterized in that wherein~~ the adhesive is an electrically insulating adhesive.

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10. (currently amended) ~~A method~~ The method of manufacturing as claimed in claim 1, ~~characterized in that wherein~~ during the step of forming, the composite piezoelectric material is heated so as to soften it, after which it is cooled so as to fix its dimensions.

11. (currently amended) An ultrasound transducer (60) in the form of a hollow spherical cap (26), ~~manufactured in conformity with claim 1, characterized in that it comprises and including~~ at least one slit (70) having a radial orientation, the ultrasound transducer produced by the method of:

providing a plate shaped as a disc and formed of a composite piezoelectric material;

cutting the plate to form at least one slit in the plate, wherein the at least one slit has a radial orientation and extends from a peripheral edge of the disc towards its center, further wherein the at least one slit includes two facing, oppositely situated free edges which bound the slit; and

forming the plate into a hollow spherical cap by deformation, wherein the two facing, oppositely situated free edges which bound the slit are substantially in contact with one another so as to minimize the internal stresses in the cap caused by the deformation.